Important Advances in Clinical Medicine

Epitomes of Progress — Pathology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in pathology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in pathology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Pathology of the California Medical Association and the summaries were prepared under its direction.

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Endomyocardial Biopsy

BIOPSY OF THE kidney, liver or bone marrow is routinely carried out in clinical medicine. Endomyocardial biopsy now also has become a routine diagnostic procedure in many medical centers. Published techniques for obtaining myocardial biopsy specimens have included percutaneous needle biopsy of the left ventricle, open thoracotomy and catheter needle biopsy of the septum. The associated morbidity and mortality with these methods have precluded their widespread acceptance. The new method, a percutaneous transvenous biopsy of the endomyocardium using a modified catheter forceps, can now be done safely on an outpatient basis. More than 2,000 endomyocardial biopsies have been done at Stanford Medical Center. There have been no deaths, and the morbidity has been less than for renal or liver biopsies. The major complication is cardiac perforation and tamponade. In our series this occurred four times in more than 2,000 procedures; treatment was by pericardiocentesis and uneventful recoveries were made in each case. Other complications include transient atrial arrhythmias and transient nerve palsies relating to internal jugular vein puncture. The biopsy tissue is sufficient for light, electron microscopic and frozen tissue (immunofluorescence) studies.

For the first time this biopsy method has made possible the earliest detection of a cardiac disease process in living patients and has documented its reversal after treatment. Both left and right ventricular biopsies can be carried out with relative safety. Some of the indications for endomyocardial biopsy may be summarized: diagnosis and follow-up of treatment of myocarditis, diagnosis and treatment of rejection in cardiac transplant recipients, diagnosis of primary and secondary cardiomyopathies, (such as hemochromatosis or sarcoidosis) and differentiation between myocardial and pericardial restrictive cardiomyopathy (such as amyloid disease). More recently endomyocardial biopsy has been used for the diagnosis and monitoring of cardiotoxicity in patients treated with anthracycline for cancer. For this purpose a biopsy grading system is used for the early detection of those patients at risk for heart failure. The treatment can then be managed to prevent cardiomyopathy and ensure a maximum antineoplastic effect rather than depending on an arbitrary dose limitation. The advent of the